

Decision Notice:
Crawford Creek Rehabilitation and Native Salmonid Reintroduction
Supplemental Environmental Assessment
December 13, 2012

Proposal

Type of Proposed Action: Montana Fish, Wildlife and Parks (MFWP) is proposing removal of non-native fishes from Crawford Creek (Belt Creek Drainage) using EPA registered piscicides containing rotenone. Treated waters will be detoxified with potassium permanganate before entering Belt Creek.

Previous Action

Fisheries surveys in 2003 documented the presence of a small population of pure native westslope cutthroat trout (WCT) above a waterfall barrier in the headwaters of Crawford Creek. Downstream of this waterfall, Crawford Creek was inhabited by brook trout and hybridized WCT trout (approximately 1.5 miles of stream). In 2003, a site for barrier construction was identified approximately 0.20 miles upstream from the confluence of Crawford Creek and Belt Creek. A local contractor was hired in 2005 to pour a two foot slab of concrete on top a small existing drop. In 2006, approximately 1.5 miles of Crawford Creek upstream of the constructed fish barrier was treated with rotenone (EA 5/16/2006; DN 8/28/2006). In 2007 and 2008 a total of 196 live juvenile and adult WCT were transferred from O'Brien Creek, a neighboring drainage, to the newly fishless habitat in Crawford Creek. Surveys in 2009 indicated that a few rainbows and hybridized trout had passed the fish barrier. Potential causes of barrier failure were assessed with the most likely cause being the lack of an adequate hydraulic analysis and assessment of barrier effectiveness at all flows. One of the goals of the original constructed barrier was to keep costs down by having much of the design and construction completed by MFWP personnel. The original barrier was constructed for less than \$4,000. Typically, comprehensive hydraulic analysis, engineering, and construction on a fish barrier would cost \$80,000 to \$110,000. Monies for previous successful barrier projects have come from a limited number of competitive granting agencies, including, PPL Montana, Future Fisheries Montana, and the National Fish and Wildlife Federation.

Summary of the Proposed Action:

In 2010, the Lewis and Clark National Forest identified a road crossing and culvert in need of replacement approximately 500 feet downstream of the current failing fish barrier. MFWP requested that the USFS design the new culvert to function as a fish barrier. In 2010, a culvert was designed that met requirements of both the USFS and stringent criteria for a fish barrier using. This work was completed with USFS program funds. Construction will be funded primarily by the USFS with additional funds obtained from the MFWP's Future Fisheries Grant Program.

Under this proposal, non-native fishes in Crawford Creek will be removed using the EPA-registered piscicide rotenone (CFT Legumine™). Antimycin, another EPA registered piscicide identified in original EA, will not be used in this project because of recent information related to quality of product and reduced effectiveness. Rotenone kills fish by blocking respiration at the cellular level. Rotenone will be applied to the waters of the project area at concentrations of 0.5 to 5 parts per million (ppm) registered product.

Treatment using rotenone will involve placing drip stations at intervals of between 0.25 miles to 1 mile (i.e. 2 to 8 drip stations in Crawford Creek). The interval will depend on water velocity in the stream as well as results of bioassays. Backpack sprayers and some powdered rotenone will be used in areas of standing water and in springs and seeps on the stream margins. The project will likely occur during late summer or early fall of 2013. Two treatments may be necessary to ensure complete eradication of non-native fishes. Rotenone typically degrades within 14 days. To prevent unnecessary mortality of pure WCT, we will install a block net to keep pure WCT in upstream reaches from moving downstream into the treatment zone. Piscicides will be neutralized after passage over the constructed culvert barrier by application of potassium permanganate at 1-6 ppm. The concentration of potassium permanganate necessary for neutralization will be determined through bioassays completed prior to treatment according to piscicide label recommendations.

Purpose and Need for the Proposed Action:

The westslope cutthroat trout is ranked as S2 (imperiled because of rarity or because of other factors demonstrably making it very vulnerable to extinction throughout its range) by the Natural Heritage Network and the State of Montana. Genetically pure WCT are thought to occupy about 8% of their historical range in the western United States (Shepard et al. 2003) and less than 4% of their historical range in northcentral Montana within the Missouri River Drainage (MFWP 2011). Current survey and inventory work has documented about 33 stream miles and 19 populations of pure WCT in the Belt Creek Drainage (MFWP 2011). Major threats to WCT include competition and hybridization with non-native rainbow trout (Leary et al. 1995; Hitt et al. 2003), competition with brook trout (Dunham 2002; Peterson et al. 2004), and isolation of remaining pure populations above barriers in short headwater sections of stream. These small isolated populations are at risk of extinction from catastrophic events (e.g. fire, drought) and may eventually suffer negative consequences of genetic inbreeding (Wang et al. 2002).

Projects which restore WCT to historically occupied habitats are necessary to ensure the continued survival of WCT in the Belt Creek drainage and elsewhere. This proposed action will expand the WCT population in Crawford Creek from less than 1/2 miles to over 1.5 miles of stream. The resulting increase in population size should reduce risks of extinction by reducing negative impacts from inbreeding (loss of fitness) and the potential impacts of catastrophic events (e.g. fire, drought). It is unlikely that this short reach of stream could support the 2,500 minimum WCT population size recommended by Hilderbrand and Kershner (2000) for long term persistence and it drains less than the 5.6 square miles (minimum watershed size) area recommended as a coarse filter for translocations by Harig and Fausch (2002). However, the habitat is better than that found in many WCT streams in northcentral Montana that have held WCT populations for greater than 50 years (Tews et al. 2000).

Benefits of the Project:

This project is intended to increase the amount of stream occupied by genetically pure WCT. If implemented, this project would protect and expand a unique pure population of westslope cutthroat trout and lower the overall risk of extinction of westslope cutthroat trout in the Belt Creek Drainage. This project would also help achieve the goal and objectives listed in the statewide Conservation Agreement (2007) for the restoration of westslope cutthroat trout. Projects which restore WCT to their historical habitat will help prevent future listing under the Endangered Species Act and potential imposition of federal regulatory restrictions. This project will also provide a unique opportunity for anglers to fish for native trout in an accessible area of Lewis and Clark National Forest.

Montana Environmental Policy Act Process

Montana Fish, Wildlife & Parks is required to assess potential impacts of the proposal to the human and physical environment. Prior to the previous rotenone treatment, in compliance with requirements of the Montana Environmental Policy Act (MEPA), an Environmental Assessment (EA) was completed by MFWP and released for public comment (May 15th to June 30th, 2006).

Public comments on the original project implemented in 2006 were taken for 47 days in 2006. The EA was mailed to 97 individuals that had a residence within 100 ft. of Belt Creek for a distance of 10 miles downstream from the confluence of Crawford Creek (including residents of Monarch, Montana). News releases and Legal Notices, which announced the availability of the EA, were published twice in the Great Falls Tribune in 2006. Also, the permittees of two grazing allotments on National Forest lands adjacent to the treatment area were notified of the proposed treatment. Construction of the culvert barrier will be analyzed for environmental impacts by the United States Forest Service.

The scope of this re-treatment of Crawford Creek with rotenone is nearly identical to the selected alternative described in the Environmental Assessment completed in 2006. The level of environmental and human impacts described and addressed in the original EA are essentially unchanged.

Public comments on a supplemental EA were taken from April 17, 2012 to May 20, 2012. The supplemental EA was posted on the MFWP public notices website at:

http://fwp.mt.gov/news/publicNotices/environmentalAssessments/restorationAndRehab/pn_0105.html

No comments were received on the supplemental EA.

Summary of Issues Addressed in the Original Environmental Assessment

The original EA describes the following issues in detail:


- Threats to native species (Westslope cutthroat trout).

- Current distribution of WCT in the Upper Missouri Basin.
- Effects of rotenone on non-target organisms and humans.
- Recreational fishing opportunities.
- Effects on livestock operations.

Decision

Based on the Environmental Assessment, public comment, and the high risk of extinction of genetically pure WCT in the Upper Missouri Basin, it is my decision to proceed with the restoration project to remove fish with piscicides in the stream reach above a constructed culvert fish barrier on Crawford Creek (Belt Creek Drainage) and allow the pure strain of WCT above the natural upstream barrier to repopulate the lower reaches. This alternative provides the best opportunity to benefit the conservation and restoration of WCT in Montana, will help relieve ESA listing pressure, and will also serve as to illustrate the State's commitment to perpetuating native fish species.

This project will help secure pure WCT in the Upper Missouri Basin by expanding their distribution to approximately 1.5 additional stream miles, and could provide a "genetic reserve" for a population deemed to have a high risk of extinction. I find there to be no significant impact on the human or physical environment associated with this project, except to help ensure the long-term persistence of pure, locally adapted WCT in the Upper Missouri Basin. Therefore, I conclude that the Environmental Assessment is the appropriate level of analysis, and that an Environmental Impact Statement is not required.


Gary Bertellotti
Region 4 Supervisor

January 4, 2013
Date

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